dance on the poor in the public wards of large hospitals. In a modern hospital, group medicine reaches its highest development. The association of physisians, surgeons and specialists of the highest rank with well trained assistants and nurses and an equipment obtained from almost unlimited resources should afford brilliant testimony to the many and great advantages both for rich and poor of group medicine.

In large cities smaller groups may spring up composed of two or three young active men under the leadership of a physician or surgeon of high reputation, and attract many patients who prefer the less crowded and more private rooms of such a group, and who think they obtain in such a more careful and thoughtful examination.

More important to the general practitioner, however, is the institution of such groups in towns and small communities, and in these it is all important that the institution of such groups should be with the consent and active cooperation of the majority of the physicians in the locality and if possible with public assistance from the county for the erection of a small hospital to which others in addition to the group specialists might be attached. In small towns and rural communities it would tend to the advantage of all if instead of a jealous competition some cooperation might be arranged between a number of the practitioners permitting a certain amount of specializing thus giving better service to the community, and by preventing overlapping in making long visits save unnecessary drives to the individual practitioners and allow more time for study and even for recreation. The important thought in all this for the profession is cooperation rather than competition, associated with the careful avoidance of all unethical attempts to spoil one another's reputation. Objection may be raised as to the impracticability of such a scheme, and emphasis may be placed on the modern tendency to commercialism rather than on the maintenance of a high ethical standard. Our belief is that if the leaders in the profession will give the example the younger men will strive to follow.

## DIET AND HYPERTHYROIDISM

THAT thyroid secretion has an important bearing upon the metabolism of food has been strongly suggested by the effects noted following the administration of extracts of the gland. Of these effects, the elimination of nitrogen in amounts greater than the intake, the increased oxidation of fat, and the apparently impaired utilization of carbohydrates, are especially to be noted. It has been repeatedly suggested that a disturbance in the metabolism of any one of these food products may lead to the formation of intermediate products, which are diverted from the synthesis of the essential active principle of the thyroid gland.

Recently McCarrison (*Brit. Med. Jour. No. 3188, Feb. 4, 1922*) has reported some observations made during experimentation on birds, on the relation between high fat diets and the genesis of goitre. The findings of this author suggest that there exists in the body a definite "fat-thyroid-iodine balance." In the presence of an excess of certain fats (unsaturated), characterized by their ability to combine with iodine, the iodine ingested, though under ordinary conditions sufficient in amount, becomes unavailable, thus leading to enlargement of the thyroid gland. This opens up a rich field for further research in the biochemistry of goitre, with special reference to iodine and fats. That iodine is essential to the normal metabolism is fairly well established. It has been shown that the physiological activity of the thyroid gland is proportionate to its iodine content. When animals are de-

prived of this element, hyperplasia may occur in the gland, and this hyperplasia may be made to disappear following the administration of more iodine. Thyroxin itself does not account for the total iodine content of the thyroid gland, yet the thyroxin-free gland seems to have no effect on metabolism, and it has been suggested that the remainder of the iodine exists in some intermediate product in the formation of the thyroxin molecule.

A consideration of the chemistry of the fats suggests that the "fat-thyroid-iodine balance" will require further study. The amount of fat in the human body varies considerably even under normal circumstances. It has been estimated that in healthy individuals it represents about 18 per cent. of the body weight, and from 67 to 85 per cent. is in the form of triolein. That oleic acid seems essential to growth has been repeatedly demonstrated. In children the proportion of oleic acid in the dermal fat increases from month to month. Emaciation in children is associated with a decrease in the proportion of oleic acid. In the embryo chick a gradual increase of the iodine value of the organized fat indicates that fats are undergoing conversion into fatty acids. A rough calculation suggests that there must be some factor influencing the "fat-thyroid-iodine balance." One gram molecule of triolein (884 grams) can absorb six atoms of iodine (762 grams). In other words, the fat characterized by its ability to absorb iodine constitutes the greater part of the total fat in the body. Assuming the average normal fat content of the body to be 18 per cent., the actual available iodine in the body is insignificant in proportion to the amount that can theoretically be combined with the fat. Why iodine should combine with unsaturated fats in the intestinal canal and not do so in the other body tissues is problematic. That it does so seems indicated from the researches of McCarrison.

---

## ON THE CAUSES WHICH TEND TO LOWER THE STANDARD OF HEALTH IN A COUNTRY

IN an address delivered before the London County Mental Hospital (*Brit. Med. Jour.* Dec. 17, 1921.) Dr. Knowles Stansfield discusses the various causes at work in England tending to the production of a population with defective health physically and mentally (the C-3 class of the recruiting service). The dictum, in his opinion, that man is the product of his heredity *plus* his environment is very true. Like produces like, but every breeder of stock knows that by judicious selection in mating, suitable housing and proper feeding he can obtain in a few generations a breed of animals greatly superior to his original stock. Unfortunately, in dealing with the human race, we can in our time only influence one or perhaps two generations; nevertheless with proper action in the removal of the causes at fault we may in time lead to important results.

Heredity is without doubt one of the great factors in the production of a defective population. The trend of modern civilization by its Poor Law System, and by its treatment of the unfit during childhood and early life tends to foster the growth of this class. The care, treatment and education given to the physically and mentally unfit may reduce materially the degree of unfitness; but if mental and moral weaklings are allowed to return to a poor environment, they fall an easy prey to evil influences. Members of this class are very improvident. They marry early and are not restrained by any problems as to how their numerous children are to be housed, fed, clothed and educated so as to permit them to take a useful place in the world.

The abuse of alcohol is another of the great factors leading to a degeneration of the type and is often inseparably